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SOME PRACTICAL POINTS IN THE TREATMENT OF SYPHILIS.

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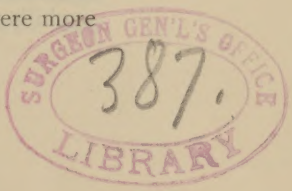
AN attentive study of the history of the therapeutics of syphilis for the past twenty years clearly shows that the object of most observers has been to attain such modification and perfection in the methods of using mercury that we may obtain all its beneficial effects, and avoid all annoying and disquieting complications and deleterious results. The experience of more than three hundred years had plainly shown that this agent alone had the most marked and salutary effect in the treatment and cure of syphilis, and it gradually dawned on the medical mind that the great disadvantages and drawbacks encountered in its employment were due to imperfection and crudeness in methods of use, and to an incomplete—I may say imperfect—knowledge of the natural history of the disease. The tangible results of this awakening are now widely seen in the teaching of to-day, in the attenuation of the dosage, and in the systematic and more lengthened course of treatment.

It is impossible to overestimate the great advance made in the treatment of this disease in the establishment of the fact that comparatively small doses of mercury given over long periods of time were more



radically curative, and less, if at all, fraught with the disadvantages and dangers of the old-time heroic dosage, and of the three to six months' course.

The next notable step in advance in the therapeutics of syphilis is seen in the widespread search for modification and perfection of the old methods of using mercury, and in the building up of a new method, namely, by hypodermatic injections. The objects hoped to be obtained from each and all of these methods were the use of a minimum quantity of the drug, accuracy and precision of the dosage, rapidity of action, greater potentiality, a more permanent effect—all combined, if possible, with simplicity and convenience of administration.

The natural outcome of a more thorough knowledge of the disease, and of more enlightened and perfected methods of treatment, was the hope of its abortion or annihilation. This hope has given rise to two methods of treatment for aborting syphilis, the one local, the other general. The first method is that of excision of the chancre, combined, in some cases, with the extirpation of the lymphatic ganglia in immediate anatomical connection; and the second is the abortive treatment by means of active mercurial dosage during the primary period of the disease.

The prevention of syphilis by excision of the chancre has been attempted by many observers, and some have claimed success, and although the treatment seems plausible, it is not looked upon with favor by the majority of syphilographers. I have tried it quite extensively over a long period of time, with painstaking attention to all details, and have been convinced of its failure, even in cases seemingly very suitable to its scope. I have never seen syphilis prevented nor its course rendered less mild,

though I think I have seen the evolution of the secondary stage somewhat delayed.

The abortive treatment of primary syphilis by means of early and active cauterization, a very old method, has also been tried and found wanting. A more suitably favorable instance of its employment than was offered by the case—now classical—of Berkeley Hill can scarcely be imagined, yet it failed utterly of prevention. We must, therefore, dismiss from our armamentarium those heroic procedures as prophylactic measures, and employ them only in conditions of necessity and exigency.

The abortive treatment of syphilis by mercury introduced in various ways into the economy has within a few years been recommended by several observers, and its consideration naturally brings up the question of the time at which to begin general treatment of the disease. I think that I state the matter correctly when I say that the majority of authorities to-day are in favor of beginning general mercurial treatment at the commencement of the secondary period of the disease. I should not, therefore, discuss the question here but for the quite recent utterances of so eminent an authority as Mr. Jonathan Hutchinson, and of my friend, Dr. E. B. Bronson. Mr. Hutchinson thinks that mercurial treatment should be begun as early as possible in the primary stage (that is, as soon as the diagnosis of syphilis is made), and that it should be continued in a quite active manner for at least six months. He claims, and with great propriety, that mercury causes the absorption of the indurated nodule; that it suppresses the febrile condition incident to the early secondary stage, causes the disappearance of the eruption, and, in fact, aborts the secondary stage entirely. He concedes, however, that even after

this treatment the patient is liable to tertiary manifestations. Dr. Bronson in his interesting paper offers the suggestion, based, as he says, on theoretical grounds, that we may cause the rapid disappearance of the initial lesion, and the probable abortion or prevention of the secondary stage, by hypodermatic injections around and under the nodule on the penis, into the substance of the inguinal lymphatic ganglia, and into the territory of integument "whose lymphatic vessels tend in their course to the ganglia which are the seat of the disease." With all deference to the opinion of Mr. Hutchinson, I must express my earnest conviction that the aim which he hopes for will be better and more surely attained by waiting until the evolution of the secondary stage than by beginning treatment at any time during the primary period. It must, however, be conceded that it sometimes happens that the necessity for mercurial treatment is imperatively indicated in the primary stage. These exigencies of practice I have succinctly formulated in the section on the treatment of syphilis in my *Atlas of Venereal and Skin Diseases*.[1]

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[1] Conditions in which it may be necessary or advisable to begin mercury in the primary period:

1. Where the initial lesion, from its size, depth, or extent, causes much pain and discomfort, or interferes with the function of parts, or, from activity of ulceration, threatens to destroy them (glans, clitoris, urethra, fingers, eyes, nose, lips, tongue, tonsils, breast, and anus).

2. In certain of those cases where, from its situation, the chancre may lead to infection of others—such as the fingers of surgeons and midwives, nipples on wet-nurses, chancres of the tongues of infants, and on the lips of young, careless, and thoughtless persons.

3. When the enlargement of the lymphatic ganglia is excessive and causes inconvenience and impairment of locomotion, or

In my judgment no good is produced, as a rule, by the internal use of mercury in the primary stage, for at that period it tends to render the course of the disease less orderly; very often leaves the existence of syphilis in a state of doubt; it does not prevent or lessen the severity of secondary manifestations, and, though it may retard them, it really often renders them more severe Whether syphilis is essentially caused by a microbe we are, as yet, far from certain, but we know quite clearly its ultimate pathological processes. It is a chronic, infectious disease, manifesting itself in the development of a low grade of granulation tissue which tends to reproduction in greater or less degree in any and all of the tissues and organs of the body. I think it can be stated, without fear of contradiction, that the malign influence of syphilis upon the human organism is directly due to the infiltrations of this tissue, to the irritative and inflammatory conditions incident to the hyperæmia which accompanies their proliferation, and last, but far from least, to the secondary destructive and atrophic changes which take place in the healthy tissues in the various metamorphoses of these specific new growths. Clinical and pathological observations have shown that mercury possesses a specific power

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movement of the arms, or produces much discomfort and disfigurement (neck, submaxillary region, elbows, and groins).

4. In all cases where chancres are complicated with a pyogenic (perhaps microbian) infection, attended with pain, fever, and perhaps typhoidal symptoms (chiefly on the fingers, but also, though rarely, on the nipple and mamma, and sometimes on the penis).

5. In all cases where married or sexual relations render the early disappearance of the chancre imperative.

6. Where the extreme anxiety and unreasonable impatience of the bearer render it imperatively necessary.

7. In those somewhat exceptional cases in which severe cephalalgia, neuralgia, pains in bones, joints, and fasciæ, are precocious.

over this low order of infectious tissue, and it is very probable that its real action is in the production of its fatty degeneration and subsequent absorption.

In my judgment syphilis is not mature until the date of secondary manifestations, when the newly formed, young, round, infecting cells are proliferated in vast quantities and are thrown into the general circulation, and by it carried throughout the body. When this has occurred, I think syphilis may be said to be "ripe;" then, and not till then, we have something tangible to treat. At this time, mercury introduced into the organism can exert its marvellous powers in destroying this, then, young, nascent, infectious material, and in causing its absorption.

The foregoing clinico-pathological facts have influenced me in my opinion that it is the wisest policy, as a rule, to wait until the onset of the secondary stage before we begin a mercurial course. Further than this, my opinion has been strengthened during more than twenty years by the observation of the progress and ultimate result of cases in which it has been necessary to begin treatment in the primary period for the reasons outlined in the footnote. In some instances, by means of a prolonged treatment, a cure has been effected, but in many a disorderly course, attended with severe and extensive manifestations, often with much cachexia and even with tertiary lesions, has been observed. As a prophylactic measure, or an abortive treatment, therefore, it is my opinion that medication begun in the primary stage of syphilis is a failure.

Dr. Bronson's suggestion I regard as very ingenious and, on its face, plausible, but I do not believe that it is capable of such thoroughly practical application as to produce the result hoped for. While I believe that in the primary period of syphilis the cell

infection is limited to the part contaminated, and to the immediately contiguous territory, with more or less involvement of the lymphatic vessels and ganglia in the vicinity and at a distance, and that the blood-vessels are also the seat of specific cell changes, I do not think that with the methods now at our command we can stamp out the disease and prevent its extension and the infection of the whole economy. The limited space of territory, its extreme delicacy, and its peculiar proneness to inflammation will not admit, in my judgment, of such activity and frequency of mercurial injection as would be required to annihilate the myriads of new, rapidly forming cells. Then, again, I think that such a quantity of the mercurial salt would be required in the procedure that a general toxic effect would be produced.

All these considerations lead me to the conclusion that, with our present therapeutic limitations, we are unable to abort syphilis thoroughly in its primary stage.

Though we are unable to abort it, we are, in favorable cases—and they are legion—able to cure it. By "cure" I mean that the early lesions are made to disappear and leave no sequelæ, that the ganglia seemingly return to their normal condition, that the health of the patient seems wholly undisturbed, and may so remain, that he has no late manifestations, that upon marriage he or she may procreate healthy children, and that thereafter they present no specific lesion or affection. The means of attaining this great boon we will consider a little later on.

The three systems of treating syphilis now in vogue are as follows: The expectant, or symptomatic; the continuous, or so called tonic treatment; and the treatment by interrupted courses.

The expectant treatment is a very easy-going one, and is fraught with danger and disaster to the unhappy person who is subjected to it. The tenets of its advocates are that we should wait until symptoms and manifestations appear, and that then we should cause their disappearance by mercury, and then wait again until another outbreak occurs. It has always seemed to me that this treatment is based upon a hopeless view of the possibility of the cure of syphilis, and upon a fear that an active use of mercury will be productive of harm. It is an unscientific and dangerous treatment, and it is well for humanity that it is growing into disrepute and disuse.

Of the continuous treatment of syphilis by mercury I can scarcely speak with more commendation than I do of the expectant treatment. I think that what I have already said in my *Atlas* in this regard fully covers the ground, so I will transcribe it here:

"A condition of tolerance is induced by the continuous ingestion of mercury, and after a time it ceases wholly to be a therapeutic agent and often to have any effect, and certainly none which is beneficial. Further, in syphilitics (I will not say what it does in dogs, rabbits, or other objects of experimentations) it very commonly produces a condition of anæmia and debility (often even when the body is fat, but flabby), and perhaps a low grade of gastro-intestinal irritation. I constantly see patients, who come of their own accord or are sent by their physicians, who have been treated continuously and without any intermission for one, two, or more years with mercury, and who still have some syphilitic lesion which refuses to disappear—perhaps dermal, osseous or articular, or even cerebro-spinal or visceral. These patients, and very often their physicians, cannot understand why it is that a treatment so constant and energetic and, in most cases, so conscientiously administered, should be productive of such unsatisfactory results. The answer to the question is clear and simple. They had used mercury long after it had ceased to be a therapeutic agent, long after it had lost its influence over the syph-

ilitic diathesis, and, strange to say, some had escaped without serious injury, but in others the chances of cure had been materially jeopardized or rendered more remote. I have seen, during a period of many years of careful observation, so much annoyance, so much trouble, misery, and even disaster result from this method of treatment that I feel that I must raise my voice against it as being irrational and even mischievous—a perversion of one of the greatest therapeutic blessings which we possess."

My experience in hospital and private practice has convinced me that the system of treating syphilis by interrupted but carefully regulated courses of mercury alone at first, and of mercury and iodide of potassium later on, is the one most preferable, most satisfactory and practicable to both physician and patient, and the one by means of which we may almost positively promise a cure to any one with ordinary health who will systematically submit to and follow it up. All systems of treatment depend on the following methods of administration of mercury: Ingestion by the mouth, endermic medication by inunctions of ointments or soaps and fumigations, and by hypodermatic injections. All these methods have their advantages, and it is a pity that the proposers of some of them, particularly of the various forms of hypodermatic mercurial injections, do not recognize their limitations, but claim for them more extended use than their merits warrant. In what follows regarding the essentials of a treatment by interrupted courses, I shall attempt to show that the best results, which, of course, means cures, are obtained by a judicious use of any or all of these means, as the conditions or necessities of the case demand.

In this facility and ability of selecting the proper method at the right time, and of the suitable agent

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for the particular lesion or affection, in my judgment, resides the art of treating and curing syphilis.

The systematic treatment of the disease presupposes a careful hygiene and an orderly and well-rounded life during its continuance.

The first question which then confronts the physician is the choice of a remedy, and though there are numerous preparations of mercury, to-day the green iodide is the one most in favor. In addition to it, I think we can place the tannate of mercury (hydrarg. tannic-oxydal) as being of particular advantage in many cases. The older authors used gray powder, blue-mass, and calomel, when they desired a prompt mercurial action, and, as they termed it, "just to touch the gums." As I will show later on, we possess methods of procedure which result more efficaciously than those agents, and which are not attended with their constant drawbacks, namely, sudden and severe ptyalism and gastro-intestinal irritation. It is rather too early to define the scope of salicylate of mercury, and of the remaining salts, once used by stomach ingestion, it is not necessary to speak here.

For all practical purposes, therefore, the proto-iodide and the tannate of mercury are sufficient. In my experience the bichloride taken by the mouth is a very uncertain remedy, of scarcely any value in small doses, and capable of great harm in large ones. Its value, however, by the hypodermatic method cannot be overestimated.

This brings us to the question of the dose. I feel fully convinced that in the reaction from large doses of mercury, formerly used, we have oftentimes gone to an injurious extreme, and that many authors recommend such small doses that the system readily becomes accustomed to them, and that they often

have little or no effect whatever. I am not in the least a believer in the arbitrary division which has been made of mercurial agents into "tonic" doses and full doses, or of the criteria by which they are judged, and I have found that even among intelligent men these artificial divisions are misleading rather than productive of precision.

Every case of syphilis is a law unto itself as regards the quantity of mercury which will be required to cure it; therefore, all that teachers can do is to state approximately the dose usually required, and the conditions under which it should be lowered or increased.

The tolerance of mercury in the system is very largely dependent upon the condition of the stomach, the pharynx, and of the mouth, and he who can keep these in as near perfect order as possible is he man who can, in the vast majority of cases, give mercury in such quantities that the eradication of syphilis may result. Those observers who have formulated the doses of mercury they regard as proper by their effect on the gums, and stomach, and bowels, have, I firmly believe, in very many instances based their theorem upon serious error, for the reason that very often temporary hyperæmia and exudative swelling exist in these tissues, due to local causes, which if removed would allow the introduction of mercury into the stomach, or by other methods, in the necessary quantity. Therefore, our duty in every case is to see that the mouth and gastro-intestinal tube are in perfect condition, and that all sources of irritation are prevented or removed. When this is done there will be few cases which are refractory to the use of the drug.

It is well to begin with a pill or tablet containing one-fourth or one-fifth of a grain of the proto-iodide

of mercury for persons of ordinary build, but for very large and robust subjects one-third or one-half a grain may be given. This dose may be taken three times a day, and then, if the symptoms do not yield (assuming that there is much constitutional reaction), if the lesions do not show signs of involution, and if the ganglia do not perceptibly subside, a fourth and even a fifth dose may be given within the twenty-four hours. The dose of the tannate of mercury is from one-half to one grain.

I am firmly convinced, from my reading and my experience and conversations with physicians, that since the adoption of the long mercurial courses, an easy-going, happy-go-lucky feeling has taken hold of many of them in their treatment of syphilitics. They are told in some of the books, and at some colleges, that syphilis can be cured, but that a treatment of two to three years is necessary. This teaching, to my mind, has engendered a feeling of false confidence and a tendency to superficial routine. It is true that we can cure syphilis, and that mercury is our weapon, but that happy result can only be accomplished by constant care and watchfulness on our part, by feeling our way, by pushing our remedy and keeping it well in hand so as to get all of the good there is in it, and to avoid all drawbacks and harm which may arise if they are not looked out for. Therefore, I say, we must not be blinded or hampered by finely spun theories, but push on, conserving our patient's health and nutrition, with an eye always on one object, namely, the destruction, as rapidly as possible, of the young, rapidly proliferating cells of this active infecting disease, and their removal as quickly as possible from the parenchyma of organs and tissues before they shall have had time to induce those subtle, but often dangerous, struc-

tural changes which bring in their wake functional disturbances, deformities, invalidism, and perhaps death. In my judgment, the early secondary period is the crucial one in the life of the syphilitic, and upon the activity and suitability of the treatment at this time his future immunity largely depends. It seems to me very probable that much of the late rebelliousness and malignity of syphilis is due to the fact that the newly formed infecting granulation cells and the concomitant subacute inflammation induce in tissues and organs, particularly delicate ones, structural and nutritive changes which predispose them to subsequent low grades of inflammation and cell increase, beside a repetition of the essential syphilitic processes.

There is nothing extraordinary in the pursuance of an early active mercurial course. It requires of the surgeon a fair knowledge of the disease, a moderate amount of moral courage, never-ceasing watchfulness and care of his patient. It is well that the first mercurial course of this treatment should be both active and rather prolonged. Therefore, we should endeavor to keep the patient under the influence of the mercurial treatment for at least three months, and, if possible, four or five, and even six, if necessary. In most cases, at the end of three months, during which the remedy should be taken quite steadily, the patient's condition will be found to be so reassuring that a stoppage of the dose may be allowed for one, two or even three weeks. In favorable cases, and by far the greater number, patients will affirm that they feel as well as they ever did, and in private practice it is rare at this time to see any but the mildest and most trifling lesions, such as spots on the tongues of smokers or drinkers,

or scaly patches in those subject to simple skin affections.

The next course may last but two or two and a half months, when perhaps about four weeks of freedom from drug-taking may be granted. Then the medicine may be used again, and in the course prescribed. During the second year I am accustomed to combine iodide of potassium with the mercurial salt, using either the bichloride or the biniodide. During this second year, all things being favorable, the intervals may be lengthened, though a full dose of the combined drugs should be given when treatment is being followed. The morale of the patient is always much improved by these periods of liberty.

It must be understood that syphilis in private practice is wholly different from that of our dispensaries and hospitals, that in the former perfect cures are obtainable, whereas in the latter we really practise a series of patchings-up, as we may say. It is most gratifying to hear, as I and, of course, other surgeons do, patients express their wonderment at the seeming benignancy of syphilis, the contemplation of which at first filled them with apprehension, and even horror.

With this general outline of the system of interrupted treatments, I shall now proceed to show how in certain cases the various methods of treatment may be utilized to the great benefit of the patient.

Many years ago I was very much impressed with the fact of the very rapid disappearance of syphilitic lesions, particularly of the secondary period, around and in the vicinity of the sites upon which hypodermatic mercurial injections had been made. I then learned that the early lesions, when recent, were then very readily dissipated, and that their retrogression

was slower in proportion to their duration and to lateness of appearance. The observations then made convinced me that the local and regional effects of mercury were also possible, and that these results were an important factor in the general scheme of treatment. I shall now proceed to show, in a general manner, the indications for these local mercurial treatments, and the means we have for their practice.

There is one fact that the surgeon should always keep in mind in the treatment of syphilis, namely, that all syphilitic lesions, even the most minute, are to be feared as possible sources of continuous or intermittent reinfection of the system. The morbid cells contained in these lesions are capable of great, even infinite, multiplication, and the so-called syphilitic relapses are due to the continual recurrence of these cell proliferations, which occur from morbid foci left over at an earlier date. While all deposits of syphilitic new growth in any part or tissue are of much danger in their ultimate results, those which occur in the lymphatic ganglia, in the lymphatic vessels, and around bloodvessels are especially so by reason of the activity of growth of these organs, of their very ready transposition to all parts of the body by means of the lymph and blood circulation. Many cases of syphilis do badly, in my judgment, for the reason that mercury by the mouth does not invariably act radically upon the lesions when they have become a little old. If in these cases the remedy is brought into more intimate local contact with these new growths or, as the many call them, infecting foci, an incalculable gain is the result. Therefore, I claim that the art of the surgeon in treating syphilis is shown when (the exigencies of the case demanding it) he is not at the end of his therapeutic resources

when he has made his patient swallow a pill in orthodox fashion, but has such practical familiarity with all the other methods of using mercury that he can adapt them to the peculiarities and varying necessities of the case.

Taking the average of cases as we find them, the most successful results are obtained by men who are not routinists. Great as are the value and power of mercurial treatment by stomach ingestion, in very many instances it is for longer or shorter periods found wanting, and then the temporary adoption of other methods will often produce the effect we desire.

My readers are familiar, or can readily become so, with the technique of mercurial inunctions and hypodermatic injections, and it is probable that they know the conditions which must guide them when prescribing mercurial fumigations; therefore I shall not use space to give these details, which are accessible to all.

I shall now further elaborate my general scheme of the systematic treatment of syphilis by interrupted courses by stating, in a general way, the condition in which mercurial inunctions and fumigations, and hypodermatic injections may be employed, according to special indications, to exigencies of various gravity, and by reason, perhaps, of utility.

Mercurial inunctions are used by some surgeons, particularly abroad, as routine method of treatment, but this is not largely the case in this country. I prefer them as an adjuvant reserve and emergency resource, since by this course I think we get the best results.

The early rashes of syphilis are best treated, in my judgment, by mercurial inunctions, both during their active and chronic stages. Thus, if the erythe-

matous syphilide is exceptionally severe and persistent, it is well to leave off internal pill dosage and use mercurial inunctions, according to the usual plan and the indications presented by the case. When the eruption has disappeared the pills are resumed again, and the ointment discontinued, unless perhaps some small patches require its continued use.

Then, again, early in the secondary stage, we can often greatly assist the cure by direct mercurial action upon the enlarged lymphatic ganglia, particularly when they are abnormally hyperplastic. It is a valuable, even a golden, rule never to be content with the action of mercurial pills, unless we see a decidedly rapid subsidence of the lymphatic ganglia. Failing to produce this effect is evidence that our remedy is not carried in sufficient quantity by means of the circulation, and that local medication is necessary. Upon the inguinal regions we can always produce a decided effect by mercurial inunctions, and the same may be done with the ganglia of the arm in chancres of the fingers; with those of the neck when the chancres are upon the head, lips, or within the mouth. Unusually large infiltrated syphilitic ganglia, wherever situated, are signs of evil omen, and, as a very general rule, it may be said that they require an active regional treatment. In like manner, hyperplastic lymphatic vessels and hyperplastic bloodvessels must be locally and actively treated. It may be well to state that the inunctions should be made over the ganglia and upon the region supplied by their lymphatic radicles

It is my custom in hospital practice to order the inunction treatment for all those cases of early papular syphilides, and direct that the applications shall be made directly to the parts upon which the lesions

are present. Thus, taking the head and neck one day, and one or two arms the next, and the other portions of the body in anatomical succession, thus going on day after day; if there are no contrary indications, the whole rash is brought under a local mercurial treatment, and, at the same time, the general system is affected by the absorption of the drug into the circulation. When the rash has disappeared internal treatment may be employed, usually, however, after a suitable interval of freedom from medicine-taking.

In like manner later-occurring and usually more special localized eruptions of all varieties may be treated, the aim in all instances being to produce a decidedly regional mercurial effect at the same time that systemic absorption is produced.

It has long been my custom to order mercurial inunction with all local precautions upon the neck and under the jaws, even upon the temple and occiput, in appropriate cases of early and late syphilitic meningeal and cerebral disease. In the cephalalgias of the early and late periods, in the neuralgias of the cranial nerves, and in syphilitic neuralgias in general, I am a firm believer in the efficacy of a well-ordered, carefully applied regional treatment. In looking over my notes I find that in cases of optic neuritis, neuro-retinitis, retinitis, choroiditis, and iritis, much benefit and even cure have been brought about by these local inunctions. In some instances of great gravity the effect has been noted as gratifying and even marvellous. It is always well in these urgent cases of syphilis of the head generally, particularly of the brain and eyes, to administer simultaneously iodide of potassium in free and increasing doses. When mercury is then being rubbed into the neck, we must carefully, very frequently,

watch the gums, mouth, and throat, and use all local and hygienic measures to keep them in a state of health, for the occurrence of ptyalism and gingivitis may necessitate the discontinuance of the inunctions, and we may lose our control of the disease.

Many of the earlier pustular eruptions of syphilis are really papules surmounted with a small cap of pus, and for them mercurial inunctions are especially adapted. Where, however, the pus production of syphilitic skin lesions is great these applications are liable to produce dermatitis. I think we are sufficiently advanced in the study of bacteriology as applied to syphilis to affirm that the pus producing lesions of that disease, and chiefly those seated on mucous membranes and the skin, are due to pyogenic microbes. In many instances these microbes produce pustular eruptions upon the skins of syphilitics for the reason that the latter are prone to fall into inflammation on even slight irritation. In other words, the vulnerable skins of syphilitics offer a favorable soil for these pus-producing microörganisms. In my opinion many cases of the ecthymaform, the rupial, and the superficial serpiginous syphilides are due to this microbian complication. Then, again, these same minute organisms induce purulent foci in syphilitic new growths, papular and tubercular. These cases are striking instances of a general systemic infection, complicated by local pyogenic infections. My experience teaches me that in cases of syphilides with much pustulation and encrustation the common antiseptic remedies are better, certainly for a time, than mercurial inunctions, which will prove beneficial for the resulting thickenings of the skin.

It is also important to remember throughout the

course of syphilis that any simple inflammatory conditions of the skin or mucous membranes should be promptly treated and dissipated, since they may become engrafted with the syphilitic impress or new growths.

Besides being treated with careful antisepsis, the initial nodule should be covered with mercurial ointment or calomel. In like manner mucous patches and condylomata in both sexes should be cleansed and dusted with calomel.

The hypodermatic method of treating syphilis is, within certain well-marked limitations, one of much practical value, and to it we accord a subordinate place in our armamentarium. Its advocates have failed in their hopes of its very general use, and its substitution for the older methods, because they claimed for it a wider sphere of usefulness than its merits will really entitle it to. Then, again, the profession has been bewildered by the great variety of salts of mercury, both old and new, and those thought to be pharmaceutically improved and modified, which have been vaunted as the perfection of specific medication. Each prominent advocate has exploited his own favorite preparation as being better than all the rest, and the bulk of the profession, being in a quandary, have marvelled, and used none of them.

There can be no question that by the hypodermatic method of using mercurial salts we may use a minimum dose, we may insure precision and accuracy in the amount of the drug, and that we may obtain rapidity and perhaps rather greater potentiality of effect, with much less liability to mouth and intestinal drawbacks, in a simple and convenient manner. But weighing against these advantages we have counterbalancing facts in the widespread re-

pugnance of patients to the treatment, the pain and soreness, the formation of indurated nodules and plaques, the occasional occurrence (even with the greatest care) of abscesses, and when the insoluble salts are used, the danger of embolism. Still, as I have said, the method is useful at certain times, when used with intelligent and careful technique.

My experience has taught me that the soluble salts of mercury are the ones to be employed as being more manageable, equally effective, and that, except in very rare instances where calomel may be used, injections of insoluble salts of mercury should not be employed. In my judgment, a pure watery solution of the bichloride of mercury is the best all-around preparation for hypodermatic injection in every possible respect. Of this, two solutions may be kept on hand; the first, in which one-twelfth of a grain of the drug is dissolved in ten drops of water, and other, containing one-eighth of a grain in the same quantity of the menstruum, both of which may be taken as standard doses. The weaker solution is the one with which to begin treatment for adults, and the stronger one can be used if the case requires a larger dose. For women and children a less quantity should be injected. Full details of the method of using hypodermatic injections of mercurial salts in syphilis will be found in my text-book. It will often be found that these injections will cause the rapid subsidence of specific lymphatic swellings, when made in their vicinity and in some cases into their substance. Localized and regional eruptions can be made rapidly to retrogress and disappear by their use. This rapidity of action is often very necessary when the lesions are on such exposed parts as the face, forehead, neck, hands, and wrists. The injections may be made very close to

the seat of the eruption, in very urgent cases, on the forehead, scalp, and nucha, and also upon the neck and near the hands on the flexor surfaces. If great care is taken they will give rise to no trouble, even on very delicate parts.

The cephalalgias of syphilis and the various neuroses may very often be promptly relieved be injections made as near the seat of the trouble as possible or practicable. In many of these instances there is more or less gastric intolerance from various acute or chronic causes, and then, by means of the injections, we may push on vigorously with the specific treatment.

Where the early eruptions are very extensive and copious, I prefer the mercurial inunctions, but even in these cases hypodermatic injections may be used with efficacy.

In some instances, happily rare, mercury taken by the stomach acts as a general depressant, and the nutrition is much impaired. I have many times seen these grave drawbacks and seeming contra-indications promptly dispelled by the use of the injections of the bichloride of mercury. In such cases it is well to begin with quite a small dose and then work upward as fast as we can.

In ocular troubles, both mild and serious in their course, these injections may be used with benefit, but owing to their gravity I am disposed to rely more commonly on mercurial inunctions. It is in these threatening cases of grave intra-ocular trouble that we sometimes see marvellous results follow the employment of regional injections of calomel.

Osseous, bursal, fascial, and articular lesions of syphilis, particularly the earlier ones, are often much benefited by sublimate injections. In such cases, however, it is well to administer synchronously

iodide of potassium in full and increasing doses. For this class of osseous and fibrous tissue lesions, however, we must never forget the known efficacy of mercurial inunctions.

There are many other conditions in which sublimate injections may be employed as a method of utility and emergency, which will become apparent to the surgeon after he has familiarized himself with their value and approximative scope.

Mercurial fumigations are of great value and are capable of wide use, though with proper limitations. They are, in the main, useful in cases of stubborn localized and even general eruptions, and particularly in the chronic scaly stage of early and late eruptions, and also in almost all cases of pustular ulcerative and serpiginous syphilides. They must be used with caution, and the patient should be carefully watched while undergoing their influence.

The foregoing facts and considerations, I think, will clearly show that the treatment of syphilis is far from being a matter of routine or a mere problem of dose-arithmetic, as many seem to think. To be thorough and successful, it must be based on broad principles and upon an accurate and full knowledge of the disease. The physician should be well versed in general medicine, as well as in syphilis, and in its management he should be zealous, watchful of all conditions and complications which may arise, and ever ready for such modifications and expedients in treatment as the case may demand. Thus equipped, it is within the power of any physician to make himself the master of syphilis in the greater number of cases and to be able to promise his patient ultimate freedom from his disease.

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